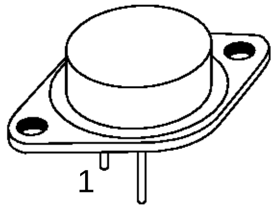
SGS-THOMSON
MICROELECTRONICS

2N3055

SILICON NPN TRANSISTOR

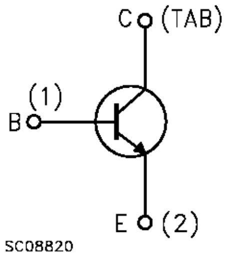
- SGS-THOMSON PREFERRED SALESTYPE

DESCRIPTION
The 2N3055 is a silicon epitaxial-base NPN transistor in Jedec TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100	V
V_{CER}	Collector-Emitter Voltage ($R_{BE} = 100\Omega$)	70	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	60	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	7	V
I_C	Collector Current	15	A
I_B	Base Current	7	A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	115	W
T_{stg}	Storage Temperature	-65 to 200	^oC
T_j	Max. Operating Junction Temperature	200	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.5	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current (V_{BE} = -1.5V)	V_{CE} = 100 V V_{CE} = 100 V T_j = 150 ^oC			1 5	mA mA
I_{CEO}	Collector Cut-off Current (I_B = 0)	V_{CE} = 30 V			0.7	mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 7 V			5	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 200 mA	60			V
$V_{CER(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 200 mA R_{BE} = 100 Ω	70			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 4 A I_B = 400 mA I_C = 10 A I_B = 3.3 A			1 3	V V
V_{BE}*	Base-Emitter Voltage	I_C = 4 A V_{CE} = 4 V			1.5	V
h_{FE}*	DC Current Gain	I_C = 0.5 A V_{CE} = 4 V Group 4 I_C = 0.5 A V_{CE} = 4 V Group 5 I_C = 0.5 A V_{CE} = 4 V Group 6 I_C = 0.5 A V_{CE} = 4 V Group 7 I_C = 4 A V_{CE} = 4 V I_C = 10 A V_{CE} = 4 V	20 35 60 120 20 5		50 75 145 250 70	
h_{FE1}/h_{FE1}*	DC Current Gain	I_C = 0.5 A V_{CE} = 4 V			1.6	
f_T	Transition frequency	I_C = 1 A V_{CE} = 4 V	2.5			MHz
$I_{s/b}$*	Second Breakdown Collector Current	V_{CE} = 40 V	2.87			A

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	

